

Bedrock Hydrostratigraphic Units - Labrador

Hydrostratigraphic Unit	Symbol	Interpreted Relative Groundwater Development Potential	Example Lithology	Well Characteristics Based on Available Well Logs in Labrador			
				Statistical Parameter	Total Depth (m)	Air Lift Yield (Lpm)	Pumping Test Rates (Lpm)
Unit 1 – Mafic Intrusives and All Extrusive Igneous Rocks	[Pink Box]	Low Yield	Anorthosite, gabbro, basalt, rhyolite	Minimum	13.4	0.1	-
				Maximum	118.5	204.6	-
				Mean	51	16.7	-
				Geomean	43	6.8	-
				Median	37.8	6.8	-
				No. of Wells	103	99	-
Unit 2 – Granitic and Gneissic Rocks	[Orange Box]	Low to moderate Yield	Granite, gneiss	Minimum	13.4	0	0.6
				Maximum	177	300	315
				Mean	62.4	21.5	28.7
				Geomean	-	7.2	8.6
				Median	57.9	9	6.5
				No. of Wells	186	171	40
Unit 3 – Sedimentary and Low-Grade Metasedimentary Extensions	[Yellow Box]	Moderate Yield	Sandstone, limestone, conglomerate, quartzite, shale, ironstone	Minimum	15.5	3	9
				Maximum	112	600	600
				Mean	38.2	50.1	179
				Geomean	34.5	16.1	83
				Median	31	11	35
				No. of Wells	43	42	5
Unit 4 – Sedimentary and Volcanic Rocks of the Labrador Trough and Metamorphosed Equivalents of the Labrador Trough and Seal Lake Group	[Green Box]	Moderate to High Yield	Siltstone and shale, sequences of deep water, turbiditic origin including siltstone equivalents, dolomitic marble, shale and sandstone of shallow to deep water origin	Minimum	22.8	9	10
				Maximum	91.4	600	620
				Mean	45.6	116.3	120
				Geomean	41.2	44.7	50
				Median	41.2	20	23
				No. of Wells	10	9	8

Notes: Mean = arithmetic average; STD = standard deviation of the population; Lpm = litres per minute; m = metres

Map Features

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|---|------------------------|--|
| ○ Town or Village | Symbols | Number of Well Logs Retrieved per Community |
| ● Former Town or Village | --- Geological Contact | ● 1 - 3 |
| — Major Road | — Fault | ● 4 - 9 |
| — Secondary Road | | ● 10 - 15 |
| — Ferry Route | | ● 15 - 20 |
| --- Southern Limit of Continuous Permafrost | | ● > 20 |

References

Base data from: NL DNR (2003), Bedrock Geology and Fault Lines from NL DNR (2010), Greene, B.A. (1974), An Outline of the Geology of Labrador, Mineral Development Division, Newfoundland Dept. of Mines and Energy, Geoscience Canada, Vol. 1, Number 3, pg. 36-40.
 Bedrock mapping is based on: Wardle, R. J., Gower, C. F., Ryan, B., Nunn, G. A. G., James, D.T., and Kerr, A., 1997, Geological Map of Labrador, 1:1 million scale, Government of Newfoundland and Labrador, Dept. of Mines and Energy, Geological Survey, Map 97-07.
 Natural Resources Canada, 1993, Canada-Permafrost [map], Fifth Edition, National Atlas of Canada, http://gsc.nrcan.gc.ca/permafrost/wheredoes_e.php

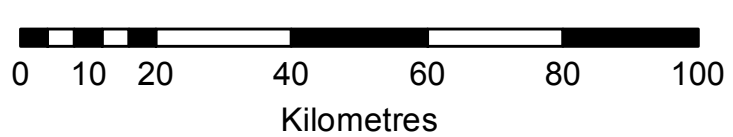


Department of Environment and Conservation

Map No. 4

BEDROCK HYDROGEOLOGY

Labrador Region, NL



FINAL

DATE: March 23, 2011
 SCALE: 1:1,115,000
 PROJECTION:
 UTM Zone 20N, NAD 83
 REVISION: 5
 DRAWN: HC-SEG

Notes

- Not all of the geology symbols are shown on this map due to limited availability of fault symbology within the digital dataset. Refer to Map 97-07 by Wardle et. al. (1997) for geology symbols (e.g. fault detail).
- This map should be reviewed in conjunction with the Draft Report on the Hydrogeology of Labrador prepared by AECOM, dated March 23, 2011.
- Areas of interpreted relative groundwater development potential are inferred and do not necessarily represent actual conditions.

